

REMARKS

The present Amendment is in response to the Examiner's Office Action mailed January 11, 2007. Claim 22 is cancelled, claims 1, 12, and 21 are amended, and new claims 24 and 25 are added. Claims 1-21 and 23-25 are now pending in view of the above amendments.

Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

I. General Considerations

Applicant notes that the remarks and amendments presented herein have been made merely to clarify the claimed embodiments from elements purported by the Examiner to be taught by the cited references. Such remarks, or a lack of remarks, and amendments are not intended to constitute, and should not be construed as, an acquiescence, on the part of the Applicant: as to the purported teachings or prior art status of the cited references; as to the characterization of the cited references advanced by the Examiner; or as to any other assertions, allegations or characterizations made by the Examiner at any time in this case. Applicant reserves the right to challenge the purported teaching and prior art status of the cited references at any appropriate time.

In addition, the remarks herein do not constitute, nor are they intended to be, an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed herein are presented solely by way of example. Consistent with the foregoing, the discussion herein is not intended, and should not be construed, to prejudice or foreclose contemporaneous or future consideration, by the Applicant, of additional or alternative distinctions between the claims of the present application and any references cited by the Examiner, and/or the merits of additional or alternative arguments.

II. PRIOR ART REJECTIONS

A. Rejection Under 35 U.S.C. §102(a/b/e)

The Examiner rejects claims 1, 5, 7-10, 12-18 and 20 under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 6,366,373 to MacKinnon et al. ("MacKinnon"). Applicants respectfully note that a claim is anticipated under 35 U.S.C. § 102(a), (b), or (e) only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Further, the identical invention must be shown in as complete detail as is contained in the claim. Finally, the elements must be arranged as required by the claim. *Manual of Patent Examining Procedure ("MPEP") § 2131.*

a. **claim 1**

As amended herein, claim 1 requires, among other things "...a controller configured to generate diagnostic information regarding the transceiver and/or to receive diagnostic information from a host device coupled to the transceiver over a standard bus, the controller further configured to provide the diagnostic information to the out-of-band modulator to be modulated as at least some of the out-of band data." Support for this amendment can be found in the application at paragraphs [0059] – [0061] and Figure 5, for example.

In contrast, the Examiner has not established that MacKinnon or any other reference teaches the aforementioned limitations in combination with the other limitations of claim 1. Accordingly, Applicants respectfully submit that the Examiner has not established that MacKinnon anticipates claim 1 at least because the Examiner has not established that each and every element as set forth in claim 1 is found in MacKinnon, because the Examiner has not established that the identical invention is shown in as complete detail in MacKinnon as is contained in claim 1, and because the Examiner has not shown that MacKinnon discloses the elements must be arranged as required claim 1. Applicant thus submits that the rejection of claim 1, as well as the rejection of corresponding dependent claims 5 and 7-10 should be withdrawn.

b. claim 12

By this paper, claim 12 has been amended to recite, among other things:

modulating, at the optical transceiver, a data signal with high-speed data, wherein the optical transceiver transmits high-speed data to the host device over a high-speed data interface;

modulating, at the optical transceiver, the data signal with out-of-band data wherein modulating the data signal with high-speed data and out-of-band data creates an outgoing double modulated signal that is a physical layer signal for transmission on a physical link, wherein the out-of-band data is data transmitted by the transceiver over the high speed data interface to the remote transceiver for the use of the transceiver and the remote transceiver in diagnostic operations and wherein out-of band data is transmitted by the transceiver to the host device over a low speed data interface;

transmitting, at the optical transceiver, the double modulated signal onto the physical link.

Support for this amendment can be found in the application at paragraph [0037] of the application, for example. In contrast however, the Examiner has not established that MacKinnon teaches this limitation in combination with the other limitations of claim 12. For example, there is not mention in the cited portions of MacKinnon that the out-of-band data is used by multiple transceivers for the benefit of the transceivers or that out-of-band data may be transmitted to a host device over a low speed data interface.

Inasmuch as the Office Action has not established that that each and every element as set forth in claim 12 is found in MacKinnon, that the identical invention is shown in MacKinnon in as complete detail as is contained in amended claim 12, and because the Office Action has not shown that MacKinnon discloses the elements of claim 12 arranged as required by that claim, Applicants respectfully submit that the Office Action has not established that MacKinnon anticipates claim 12.

For at least the foregoing reasons, Applicants respectfully submit that the rejection of claim 12, as well as the rejection of corresponding dependent claims 13-18 and 20, should be withdrawn.

B. Rejection of Claims 2-4, 6, 11, 19, and 21-23 under 35 U.S.C. § 103

Applicants respectfully note at the outset that in order to establish a *prima facie* case of obviousness, it is the burden of the Office Action to demonstrate that three criteria are met: first, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; second, there must be a reasonable expectation of success; and third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP* § 2143.

The Office Action has rejected claims 2-4 under 35 U.S.C. § 103(a) as being unpatentable over MacKinnon in view of United States Patent Publication No. 2005/0213621 to Varga et al. ("Varga"). The Office Action has also rejected claim 6 as being unpatentable over MacKinnon in view of United States Patent Publication No. 2003/0223761 to Brown et al. ("Brown"). Claims 11, 19, and 21-23 were rejected as being unpatentable over MacKinnon. Applicants respectfully disagree and submit that for at least the reasons set forth below, these rejections should be withdrawn.

a. claims 2-4

As discussed above, the Office Action has failed to establish that MacKinnon teaches each and every limitation of amended claim 1. Varga fails to establish the missing elements of amended claim 1 and is not cited by the Office Action as teaching such. Accordingly, even the purported combination of MacKinnon and Varga fail to teach or suggest all of the limitations of amended claim 1.

Claims 2-4 depend from amended claim 1 and therefore include all of the limitations of amended claim 1. Accordingly, the Office Action has failed to establish a *prima facie* case of obviousness with respect to claims 2-4, at least because even if the MacKinnon device is combined with the alleged teachings of Varga, or otherwise modified, in the purportedly obvious fashions advanced by the Office Action, the resulting combination fails to include all the limitations of the rejected claims. Applicant thus respectfully submits that the rejection of claims 2-4 should be withdrawn.

b. claim 6

As discussed above, the Office Action has failed to establish that MacKinnon teaches each and every limitation of amended claim 1. Brown fails to establish the missing elements of

amended claim 1 and is not cited by the Office Action as teaching such. Accordingly, even the purported combination of MacKinnon and Brown fail to teach or suggest all of the limitations of amended claim 1.

Claim 6 depends from amended claim 1 and therefore includes all of the limitations of amended claim 1. Accordingly, the Office Action has failed to establish a *prima facie* case of obviousness with respect to claim 6, at least because even if the MacKinnon device is combined with the alleged teachings of Brown, or otherwise modified, in the purportedly obvious fashions advanced by the Office Action, the resulting combination fails to include all the limitations of the rejected claim. Applicant thus respectfully submits that the rejection of claim 6 should be withdrawn.

c. claims 11 and 19

As discussed above, the Office Action has failed to establish that MacKinnon teaches each and every limitation of amended claim 12. Claims 11 and 19 depend from amended claim 12 and therefore includes all of the limitations of amended claim 12. Accordingly, the Office Action has failed to establish a *prima facie* case of obviousness with respect to claims 11 and 19, for the reason that MacKinnon fails to teach or suggest all of the limitations of claims 11 and 19. Applicant thus respectfully submits that the rejection of claims 11 and 19 should be withdrawn.

d. claims 21-23

As amended herein, claim 21 requires, among other things:

a receiver adapted to receive a data signal;

a signal processor coupled to the receiver, the signal processor being adapted to perform processing tasks on the data signal;

a transmitter coupled to the signal processor, the transmitter adapted to receive the data signal from the processor and to transmit the data signal; and

out-of-band logic coupled to the signal processor, the out-of-band logic configured to extract and insert out-of-band data onto the data signal, wherein the out-of-band logic is configured to:

extract out-of-band data from the data signal, wherein the out-of-band data includes digital diagnostic data from at least one remote repeater;

concatenate data corresponding to digital diagnostic data for the repeater to the out-of-band data such that the out-of-band data includes the digital diagnostic data for the repeater and the at least one remote repeater; and

insert the out-of-band data including the data corresponding to digital diagnostic data for the repeater and the at least one remote repeater onto the data signal.

Support for this amendment can be found in the application at paragraphs [0066] – [0067] and Figure 8, for example. In contrast however, the Examiner has not established that MacKinnon teaches or suggests these limitations in combination with the other limitations of claim 21. For example, there is not mention in MacKinnon about a repeater at all. Further, even if the device of MacKinnon may reproduce a signal at a node as alleged in the Office Action, a position that the Applicants do not agree with, MacKinnon still does not teach or suggest that a repeater may extract out-of-band data including digital diagnostic data from a remote repeater, concatenate to the out-of-band data its own digital diagnostic data with the digital diagnostic data from the remote repeater, and then insert the out-of-band data including the digital diagnostic data from the repeater and the remote repeater into a data signal.

Accordingly, the Office Action has failed to establish a *prima facie* case of obviousness with respect to claims 21-23, for the reason that MacKinnon fails to teach or suggest all of the limitations of claims 21 and 23. Applicant thus respectfully submits that the rejection of claims 21 and 23 should be withdrawn. Inasmuch as claim 22 has been canceled, the rejection of that claim is moot and should be withdrawn.

III. New Claims

Applicants have added new claims 24 and 25. Applicants note that neither MacKinnon nor any of the other references cited in the Office Action, either singularly or in combination with any other reference cited in the Office Action, teaches or suggests the all of the limitations of new claims 24 and 25. Accordingly, new claims 24 and 25 are in a condition of allowance.

CONCLUSION

In view of the foregoing, Applicant believes the claims as amended or presently pending are in allowable form and that every issue raised by the Office Action has been addressed. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorneys.

Dated this 11th day of June, 2007.

Respectfully submitted,

A handwritten signature in black ink that reads "Shane K. Jensen". The signature is written in a cursive, flowing style.

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